MULTIMEDIA UNIVERSITY

STUDENT ID NO

MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 2, 2016/2017

BAC3674 – ADVANCED MANAGEMENT ACCOUNTING

(B01)

9 MARCH 2017
2.30 PM – 5.30 PM
(3 HOURS)

INSTRUCTIONS TO STUDENT

1. This question paper consists of 9 **pages** (excluding the cover page).

2. **Answer ALL FOUR (4) questions.** All questions carry equal marks and the distribution of the marks for each question is given.

3. Please provide all your answers in the Answer Booklet provided.

Question 1

King's Manufacturing has four categories of overhead. The four categories and expected overhead costs for each category for next year are as follows:

	RM
Maintenance	70,000
Materials handling	30,000
Setups	25,000
Inspection	50,000

Currently, overhead is applied using a predetermined overhead rate based upon budgeted direct labor hours. 50,000 direct labor hours are budgeted for next year.

The company has been asked to submit a bid for a proposed job. The plant manager feels that obtaining this job would result in new business for future years. Usually, bids are based upon full manufacturing cost plus 30 percent.

Estimates for the proposed job are as follows:

Direct materials	RM2,500
Direct labor (750 hours)	RM3,750
Number of machine hours	300
Number of material moves	8
Number of setups	3
Number of inspections	5

In the past, full manufacturing cost has been calculated by allocating overhead using a volume-based activity driver, i.e. direct labor hours. The plant manager has heard of a new way of applying overhead that uses cost pools and activity drivers.

Expected activity for the four activity drivers that would be used are:

Machine hours	16,000
Material moves	4,000
Setups	2,000
Quality inspections	8,000

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Required:

a.) i) Determine the amount of overhead that would be allocated to the proposed job if direct labor hours are used as the volume-based activity driver. (2 marks)

ii) Determine the total cost of the proposed job. (2 marks)

iii) Determine the company's bid if the bid is based upon full manufacturing cost plus 30 percent. (1 mark)

b.) i) Determine the amount of overhead that would be applied to the proposed project if activity-based costing is used. (8 marks)

ii) Determine the total cost of the proposed job if activity-based costing is used. (1 mark)

iii) Determine the company's bid if activity-based costing is used and the bid is based upon full manufacturing cost plus 30 percent. (1 mark)

c.) Which product costing method produces the more competitive bid? Explain why. (7 marks)

d.) How can King's Manufacturing be assured that the mark up of 30% on full manufacturing cost is sufficient to cover non-manufacturing costs and desired profit?

(3marks)

[Total 25 marks]

Continued....

Question 2

AWC Sdn. Bhd. (AWC) owns a catering company that prepares banquets and parties for business functions throughout the year. AWC's business is seasonal, with a heavy schedule during June till September and the year-end holidays.

During peak periods there are extra costs. However, even during non-peak periods AWC must work more to cover its expenses.

One of the major events that AWC's customers request is a cocktail party. AWC offers a standard cocktail party and has developed the following cost structure on a per person basis:

	RM
Food and beverages	14.00
Labour (0.6 hours x RM20 per hour)	12.00
Overhead (0.6 hours x RM14 per hour)	8.40
Total cost per person	34.40

When bidding on cocktail parties, AWC adds a 15% mark up to this cost structure as a profit margin. AWC is quite certain about its estimates of the prime costs but is not as comfortable with the overhead estimate.

This estimate was based on the actual data for the past 12 months presented in the following table. These data indicate that overhead expenses vary with the direct labour hours expended. The RM14 per hour overhead estimate was determined by dividing total overhead expended for the 12 months (RM805,000) by total labour hours (57,600 hours) and rounding to the nearest RM.

Month	Labour hours	Overhead costs (RM)
January	2,800	59,000
February	2,500	55,000
March	3,000	60,000
April	4,500	67,000
May	4,200	64,000
June	6,500	74,000
July	5,500	71,000
August	7,000	75,000
September	7,500	77,000
October	4,500	68,000
November	3,100	62,000
December	6,500	73,000
Total	57,600	805,000

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AWC recently attended a meeting of the local chamber of commerce and have heard a business consultant discuss regression analysis and its business applications. After the meeting, AWC decided to do a regression analysis of the overhead data it had collected. The following regression results were obtained:

Intercept (a)	48.126
Coefficient (b)	3.95

Required:

a) Explain the difference between the overhead rate originally estimated by AWC and the overhead rate developed from the regression method. (6 marks)

b) Using the regression results given in the question, construct the overhead cost model and outline two (2) ways that AWC can evaluate the "quality" of its regression analysis? (4 marks)

c) Determine the variable cost per person for a cocktail party. (5 marks)

d) AWC has been asked to prepare a bid for a 250-person cocktail party to be given next month. Determine the minimum bid price that AWC should be willing to submit. (4 marks)

e) Outline three (3) other factors that AWC should consider in developing the bid price for the cocktail party. (6 marks)

[Total 25 marks]

Question 3

BUM Equipments produces three products: Standard, Premium, Deluxe. The company has an established, but static, domestic market for its products. So, the company is now considering the export market. First and foremost, to remain process efficient, BUM Equipments is considering the purchase of a new computer system for its manufacturing operations to replace the one currently in operation. Data on the *new* computer system are as follows:

Cost	RM12,000
Salvage value at the end of five years	RM1,000
Useful life	5 years
Annual operating cost	RM4,000

Continued....

If the existing computer system is kept and used, it would require the purchase of additional hardware a year from now costing RM2,000. After the use of the system for five years, the salvage value would be RM300. Additional information on the existing system is as follows:

Additional years of use	5 years
Annual operating costs	RM9,000
Remaining book value	RM12,000
Current salvage value	RM3,000
Cost of capital	12%

The company uses the straight-line method of depreciation.

Required:

a.) Should the new computer system be purchased? (7 marks)

[Use the PV/ Annuity table provided in the Appendix on page 9]

As mentioned above, the management team of BUM Equipments is concerned that the market may have reached maturity with the result that, while demand is expected to remain stable for the foreseeable future, the long term outlook is difficult to predict.

You are a member of a project team which has been asked to consider the options available to the company. Your team has done research that showed that the level of demand can be influenced by marketing activity, and data on potential sales for the export market for the next year is as follows:

Annual Demand (Units)			Marketing Expenditure (RM)	Probability
Standard	Premium	Deluxe		
1,300	800	600	60,000	0.55
1,100	600	550	40,000	0.35
900	500	400	20,000	0.10

The market research has indicated that customers are likely to be influenced by their perception of the company's commitment to a particular market and consequently the company must decide whether to serve the domestic market or the export market.

Last year sales in the domestic market, which is expected to be the same for next year, is as follows: Standard 1,200 units, Premium 700 units, Deluxe 500 units.

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The cost and product data are as follows:

	Standard	Premium	Deluxe
Labour hours per unit	1.8	2.6	3.2
Material cost per unit (RM)	102	165	180
Selling price per unit (RM)	400	700	900

Labour costs are RM50 per hour and variable overheads are absorbed on a labour hour basis at a rate of RM40 per hour. Fixed costs are RM120,000 per annum.

Required:

b.) Calculate the profit which the company can expect from:

i. continuing to sell in the domestic market (8 marks)

ii. entering the export market (7 marks)

c.) Discuss the options that are available to the company highlighting the assumptions. (3 marks)

[Total 25 marks]

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Question 4

FOB Sdn. Bhd. is considering a new project and has gathered the following data:

The initial investment is RM 66 million which will be required at the beginning of the year. The project has a three year life with a nil residual value. Depreciation is calculated on a straight line basis.

The project is expected to generate annual cash flows (revenue) of RM85 million in year 1, RM90 million in year 2 and RM94 million in year 3. These values may vary by 6%, i.e. in the best outcome the cash flows may increase by 6% and in the worst outcome, the cash flows may decrease by 6%.

The incremental costs will be RM50 million in year 1, RM60 million in year 2 and RM70 million in year 3. These may vary by 8%, i.e. in the best outcome the costs may decrease by 8% and in the worst outcome, the costs may increase by 8%.

Cost of capital may also vary from 8% (the best outcome) to 10% (the worst outcome) for the life of the project.

Use the net book value of the asset of prior year to represent the value of the asset for the year.

Ignore tax

Discounting factor

	Year 1	Year 2	Year 3
8%	0.926	0.857	0.794
10%	0.909	0.826	0.751

All computations are to be rounded to 2 decimal points (if any). It is assumed that net book value is equivalent to capital employed.

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Required:

a) Prepare two tables showing net profit, residue income (RI) and return on investment (ROI) for i) **the best outcome** and ii) **the worst outcome** for each year of the project. (9 marks)

b) Calculate the Net Present Value (NPV) for the project for **the best outcome** and **worst outcome.** (5 marks)

c) Based on the computations in (a) and (b), evaluate the overall performance of the company for three years by using ROI, RI and NPV for **the best outcome** and **the worst outcome**. (5 marks)

d) Briefly explain three reasons why NPV is the preferred method in evaluating the feasibility of projects? (6 marks)

[Total 25 marks]

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APPENDIX

1. Extract of Present Value Table: Present value interest factor of RM1 per period at i% for n periods.

Period	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870
2	0.890	0.873	0.857	0.842	0.826	0.812	0.797	0.783	0.769	0.756
3	0.840	0.816	0.794	0.772	0.751	0.731	0.712	0.693	0.675	0.658
4	0.792	0.763	0.735	0.708	0.683	0.659	0.636	0.613	0.592	0.572
5	0.747	0.713	0.681	0.650	0.621	0.593	0.567	0.543	0.519	0.497
6	0.705	0.666	0.630	0.596	0.564	0.535	0.507	0.480	0.456	0.432
7	0.665	0.623	0.583	0.547	0.513	0.482	0.452	0.425	0.400	0.376
8	0.627	0.582	0.540	0.502	0.467	0.434	0.404	0.376	0.351	0.327
9	0.592	0.544	0.500	0.460	0.424	0.391	0.361	0.333	0.308	0.284
10	0.558	0.508	0.463	0.422	0.386	0.352	0.322	0.295	0.270	0.247

2. Extract of Annuity Table: Present value interest factor of an annuity of RM1 per period at i% for n periods.

Period	6%	7%	8%	9%	10%	11%	12%	13%	14%	15%
1	0.943	0.935	0.926	0.917	0.909	0.901	0.893	0.885	0.877	0.870
2	1.833	1.808	1.783	1.759	1.736	1.713	1.690	1.668	1.647	1.626
3	2.673	2.624	2.577	2.531	2.487	2.444	2.402	2.361	2.322	2.283
4	3.465	3.387	3.312	3.240	3.170	3.102	3.037	2.974	2.914	2.855
5	4.212	4.100	3.993	3.890	3.791	3.696	3.605	3.517	3.433	3.352
6	4.917	4.767	4.623	4.486	4.355	4.231	4.111	3.998	3.889	3.784
7	5.582	5.389	5.206	5.033	4.868	4.712	4.564	4.423	4.288	4.160
8	6.210	5.971	5.747	5.535	5.335	5.146	4.968	4.799	4.639	4.487
9	6.802	6.515	6.247	5.995	5.759	5.537	5.328	5.132	4.946	4.772
10	7.360	7.024	6.710	6.418	6.145	5.889	5.650	5.426	5.216	5.019

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